

**BY ORDER OF THE  
SECRETARY OF THE AIR FORCE**



**AIR FORCE INSTRUCTION 63-140**

**7 APRIL 2014**

**AIR COMBAT COMMAND  
Supplement**

**27 APRIL 2015**

**Acquisition**

**AIRCRAFT STRUCTURAL INTEGRITY  
PROGRAM**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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(ACC)

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This publication implements the integrity program requirements related to structural integrity in Air Force Policy Directive (AFPD) 63-1/20-1, *Integrated Life Cycle Management*, and is consistent with DoD Directive 5000.01, *The Defense Acquisition System*, and DoD Instruction 5000.02, *Operation of the Defense Acquisition System*. This instruction requires aircraft program offices and lead/using commands to collaborate on Aircraft Structural Integrity Programs (ASIP) that support mission readiness and airworthiness assurance through a series of programmatic time-phased tasks during the development, acquisition, production, modification, and sustainment of Air Force aircraft.

To ensure standardization, any organization supplementing this instruction must send the implementing publication to Deputy Assistant Secretary of the Air Force for Acquisition Integration (SAF/AQX) for review and coordination before publishing. Refer recommended changes and questions about this publication to SAF/AQXA using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through functional chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363,

*Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located in the Air Force Records Information Management System (AFRIMS).

This publication applies to all military and civilian Air Force personnel including major commands (MAJCOMs), direct reporting units (DRUs) and field operating agencies (FOA), and to other individuals or organizations as required by binding agreement or obligation with the Department of the Air Force (DAF). This publication applies to the Air Force Reserve Command (AFRC) and Air National Guard (ANG), except as noted in the publication.

In accordance with the acquisition chain of authority specified in AFI 63-101/20-101, *Integrated Life Cycle Management*, mandates to the acquisition execution chain are not considered Wing level mandates and tiering per AFI 33-360, *Publications and Forms Management*, does not apply.

**(ACC) AFI 63-140, 7 April 2014, is supplemented as follows.** This supplement establishes MAJCOM Aircraft Structural Integrity Program (ASIP) requirements. It applies to all ACC units to include AFRC and ANG classic associate units. Forward recommended changes on AF Form 847, **Recommendation for Change of Publication**, to this instruction to HQ ACC/A4V, 130 Douglas Blvd, Ste #102A, Langley AFB VA 23665-2714. **Note:** The inclusion of any specific commercial product, commodity, or service in this publication is for information purposes only and does not imply endorsement by the Air Force. To ensure standardization, any organization supplementing this instruction must send the implementing publication to the OPR of this publication for review and coordination before publishing. Refer recommended changes and questions about this publication to the OPR using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through functional chain of command. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afirms/afirms/afirms/rims.cfm>. Contact supporting records managers as required.

## **SUMMARY OF CHANGES**

With the rescission of AFPD 63-10, this AFI is realigned under AFPD 63-1. It requires aircraft programs to use MIL-STD-1530, *DoD Standard Practice for Aircraft Structural Integrity Program (ASIP)*, and clarifies the roles and responsibilities of each organization that directly supports the AF ASIP. It mandates the development of ASIP master plans, which must be approved by the Program Executive Officer (PEO). It establishes ASIP OPRs at operational commands and at FOAs, and establishes roles and responsibilities for the AF ASIP Technical Advisor. It mandates adherence to ASIP data capture rates and requires program offices to report any data capture deficiencies to the MAJCOM ASIP OPRs.

## **1. Applicability.**

1.1. The goal of the AF Aircraft Structural Integrity Program (ASIP) is to ensure the desired level of structural safety, performance, durability, and supportability with the least possible economic burden throughout the aircraft's service life.

1.2. This publication applies to all Air Force aircraft programs.

## **2. ASIP Objectives.**

2.1. The objectives of the AF ASIP are to:

2.2. Define the structural integrity requirements necessary to support airworthiness assurance and the program manager's (PM) assurance of operational safety, suitability and effectiveness.

2.3. Establish, evaluate, substantiate, and certify the structural integrity of aircraft structures.

2.4. Acquire, evaluate, and apply aircraft usage and maintenance data to ensure the continued structural integrity of operational aircraft.

2.5. Provide quantitative information for decisions on force structure planning, inspection, modification priorities, risk management, expected life cycle costs and related operational and support issues.

2.6. Provide a basis for improving structural criteria and methods of design, manufacturing, evaluation, and substantiation for future aircraft systems and modifications.

## **3. ASIP Requirements.**

3.1. The PM shall establish an ASIP for each Mission Design Series (MDS) the Air Force acquires, uses, or leases.

3.2. For each aircraft MDS developed or modified by the Air Force, the ASIP shall comply with MIL-STD-1530, *DoD Standard Practice for Aircraft Structural Integrity Program (ASIP)*. For these MDS, the PM shall:

3.2.1. Draft an initial ASIP Master Plan for the program as early as possible in the Technology Maturation and Risk Reduction phase. The initial ASIP Master Plan shall identify the tasks required to achieve structural integrity and to determine structural safety, performance, durability, supportability, and life cycle costs for the aircraft structure.

3.2.2. Obtain PEO approval for the ASIP Master Plan before the System Requirements Review (SRR).

3.2.3. Update the ASIP Master Plan during the Engineering and Manufacturing Development, Production & Deployment, and Operations & Sustainment phases of the program to document changes in the ASIP.

3.2.4. For aircraft in sustainment, execute the ASIP program as an integral part of the total system engineering and management effort in the sustainment of the aircraft.

3.2.5. For aircraft that are to be modified, fly new missions, or whose operation will extend past the aircraft's certified design service life, develop a revised ASIP Master Plan and obtain PEO approval of the revised plan before modifications are executed, regular

flights begin under the new mission, or commencing operations beyond the previously certified service life.

3.3. For each aircraft MDS operated by the AF but not developed or modified by the Air Force, the PM shall use MIL-STD-1530 as the basis for determining those ASIP tasks and elements necessary to ensure the aircraft's structural safety, performance, durability, supportability, and affordability for the operational life of structural components, while remaining consistent with the program's acquisition strategy and engineering authority over the aircraft. For these MDS, the PM shall:

3.3.1. Document the tailored program in an ASIP Master Plan.

3.3.2. Finalize the ASIP Master Plan and obtain PEO approval before the Air Force operates the aircraft.

#### 4. Roles and Responsibilities.

4.1. Assistant Secretary of the Air Force for Acquisition (SAF/AQ) will:

4.1.1. Oversee AF ASIP policy.

4.1.2. Support aircraft program office ASIP implementation as a part of the integrated life cycle management of systems from their entry into defense acquisition management system through retirement and disposal.

4.1.3. Work with Commander, AF Materiel Command (AFMC/CC) to designate the AF ASIP Technical Advisor.

4.2. Deputy Chief of Staff (DCS), Logistics, Installations and Mission Support (HQ USAF/A4/7) will:

4.2.1. Integrate ASIP into maintenance policy.

4.2.2. Support ASIP-related planning, programming, and budgeting activities for each aircraft program.

4.3. AFMC/CC will:

4.3.1. Include ASIP master plan development, maintenance, and implementation requirements in compliance checklists.

4.3.2. Sustain and enhance a data management capability to support ASIP (e.g. the Aircraft Structural Integrity Management Information System).

4.3.3. Provide technical advice and capabilities that sustain and enhance ASIP, to include Non-Destructive Inspection (NDI) capability.

4.4. Operational Commands and Field Operating Agencies (FOA) will:

4.4.1. Establish an ASIP OPR for managing the ASIP program command-wide.

4.4.1.1. **(Added-ACC)** ACC/A4VX is the command-wide ASIP OPR for all weapon systems that ACC is lead command for, IAW AFD 10-9 *Lead Command Designation and Responsibilities for Weapon System*; [acca4vasip@us.af.mil](mailto:acca4vasip@us.af.mil).

4.4.1.2. **(Added-ACC)** ACC ASIP OPR will be an aircraft/aerospace engineer or have equivalent aircraft technical expertise.

- 4.4.1.3. **(Added-ACC)** ACC ASIP OPR will evaluate service life estimate and force structure changes, and collaborate data with ACC/A5\_8\_9 and ACC/A3.
- 4.4.1.4. **(Added-ACC)** ACC ASIP OPR or designated representative shall represent ACC in annual ASIP program reviews, working group, and technical interchange meetings.
- 4.4.1.5. **(Added-ACC)** The ACC ASIP OPR will present the unit IAT submission rates to ACC/A4 quarterly.
- 4.4.2. Develop, publish, and update documentation specifying MAJCOM or Lead Operating Command ASIP responsibilities in accordance with this instruction.
- 4.4.3. Assist PMs in the development, maintenance, and implementation of ASIP master plans as requested.
- 4.4.4. Install, operate, and maintain ASIP hardware including loads/environment spectra survey (L/ESS) and individual aircraft tracking (IAT) data collection transfer and analysis systems sufficient to support the valid data capture rates required by the aircraft-specific ASIP Master Plans.
- 4.4.5. Ensure that unit personnel collect and report data IAW the valid data capture rates defined by the ASIP Master Plans.
- 4.4.5.1. **(Added-ACC)** Maintenance Group Commander will appoint an officer or NCO as the unit ASIP Project Office. **(T-2)**.
- 4.4.5.1.1. **(Added-ACC)** Units will appoint ASIP monitors for Deployed/Contingency locations. **(T-2)**.
- 4.4.5.1.2. **(Added-ACC)** Maintenance Group Commander will ensure effective measures are in place to capture and report ASIP aircraft usage data (Individual Aircraft Tracking and/or Loads Environment Spectrum Survey) to achieve the required data capture/validity rate.
- 4.4.5.2. **(Added-ACC)** Units will collect, track, and submit IAT data (no later than the end of the next duty day) IAW specific aircraft technical orders and/or ASIP Master Plans. **(T-2)**.
- 4.4.5.2.1. **(Added-ACC)** Units will develop and publish procedures to collect and submit ASIP aircraft usage data at homestation and deployed locations. **(T-3)**.
- 4.4.5.2.2. **(Added-ACC)** Units will track and submit to ACC/A4VX ([acca4vasip@us.af.mil](mailto:acca4vasip@us.af.mil)) a quarterly IAT status report IAW attachment 2 for all assigned manned/unmanned, homestation/deployed aircraft. **(T-2)**.
- 4.4.5.2.2.1. **(Added-ACC)** Unit quarterly IAT reports will be submitted to the ACC ASIP OPR ([acca4vasip@us.af.mil](mailto:acca4vasip@us.af.mil)) NLT the fifth duty day of the quarter (Jan, Apr, Jul, & Oct).
- 4.4.5.2.2.2. **(Added-ACC)** Unit quarterly IAT reports will include amplifying remarks to explain IAT data submission rates below 90%, and listed by month in the remarks section of the template, see attachment 2.
- 4.4.5.2.2.3. **(Added-ACC)** Units possessing manned or unmanned weapon

systems that do not have an approved IAT system will contact the ACC ASIP OPR ([acca4vasip@us.af.mil](mailto:acca4vasip@us.af.mil)) for reporting guidance .

4.4.5.2.2.4. **(Added-ACC)** Units will coordinate with the MAJCOM ASIP OPR and MDS ASIP Manager to obtain guidance and resolution when ASIP usage data collection and submission issues are encountered.

4.4.5.3. **(Added-ACC)** Units will coordinate with the MDS MAJCOM OPR and SPO ASIP Manager to obtain feedback on data capture rates and to implement corrective actions as needed to achieve the required rates.

4.4.5.4. **(Added-ACC)** Units will develop ASIP Project Officer, ASIP monitor, and Debrief section responsibilities and training program (as applicable).

4.4.6. Assist program office ASIP Managers in the development and implementation of corrective actions as needed to achieve required valid data capture rates.

4.4.6.1. **(Added-ACC)** ACC ASIP OPR will coordinate with other command ASIP OPR (as necessary), unit ASIP Project Officer and SPO ASIP Manager to resolve IAT data submission problems, aircraft hardware/software discrepancies, and programmatic issues that affect valid data capture rates.

4.4.7. Plan, program and budget for funds, per AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon System*, necessary to obtain the equipment, data, analyses, and testing required to ensure the structural integrity baseline for the aircraft is being maintained.

4.4.7.1. **(Added-ACC)** ACC/A3 and Weapon System Team Program Element Monitor will notify the ACC/A4VX ASIP OPR and applicable SPO of changes in operational usage or configuration that deviate from the original design of the weapon system.

4.4.8. Evaluate annual ASIP summaries as they apply to force structure, aircraft operational use and budgeting.

4.4.9. Ensure that structural inspections required by an aircraft's ASIP are conducted in accordance with the appropriate schedules, processes, procedures, and technical orders.

4.5. AF ASIP Technical Advisor will:

4.5.1. Review all ASIP master plans including updates and make approval recommendation to the PEO.

4.5.2. Review execution of the ASIP for each MDS, identify trends, gaps, and opportunities for improvement in the ASIP execution, and report these findings to PEOs and operating/lead MAJCOMs.

4.6. Program Executive Officers (PEO) will:

4.6.1. Ensure ASIPs are established and ASIP Master Plans are developed for each MDS operated by the Air Force in their portfolio.

4.6.2. Ensure aircraft PMs are executing the ASIP requirements in a timely manner as an integral part of life cycle management.

- 4.6.3. Utilize ASIP information in modification management and implementation.
- 4.6.4. Approve all ASIP master plans including updates.
- 4.7. Program Managers (PM) will:
  - 4.7.1. Plan, program, and budget funds required to develop, maintain, and execute the ASIP.
  - 4.7.2. Ensure that program life cycle cost estimates developed IAW AFI 65-508, *Cost Analysis Guidance and Procedures*, include estimated costs of supporting the ASIP.
  - 4.7.3. Oversee the development, modification and execution of the ASIP and ensure that the ASIP Master Plan is approved, updated and executed.
  - 4.7.4. Appoint an aircraft ASIP Manager.
  - 4.7.5. Ensure the usage collection and evaluation systems for L/ESS and IAT achieve the valid data capture rates defined in the approved ASIP Master Plan. Monitor all ASIP flight data retrieval results to identify incomplete or missing data. Notify MAJCOM ASIP OPRs of flight data retrieval discrepancies.
  - 4.7.6. Ensure processes are in place for collecting, processing, storing, analyzing and reporting structural maintenance data essential to evaluating aircraft structural integrity.
  - 4.7.7. Annually provide summaries to Lead Commands of past operational usage and the effect on the structural integrity.
  - 4.7.8. Establish and document the life cycle inspection and modification actions and schedules required to maintain the structural integrity of each aircraft system.
  - 4.7.9. Ensure ASIP aircraft usage data requirements are integrated with mandatory crash survivable data recorder requirements when identifying the aircraft flight data parameter recording, storage and transmission capability.

WILLIAM A. LAPLANTE, SES  
Assistant Secretary of the Air Force  
(Acquisition)

(ACC)

JOHN B. COOPER, Major General, USAF  
Director of Logistics

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

DoD Directive 5000.01, *The Defense Acquisition System*, 12 May 2003

DoD Instruction 5000.02, *Operation of the Defense Acquisition System*, 25 Nov 2013

AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon System*, 8 Mar 2010

AFPD 63-1/20-1, *Integrated Life Cycle Management*, 3 Jul 2012

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 6 Jul 2010

AFI 63-101/20-101, *Integrated Life Cycle Management*, 7 Mar 2013

AFI 65-508, *Cost Analysis Guidance and Procedures*, 6 June 2012

MIL-STD-1530, *DoD Standard Practice, Aircraft Structural Integrity Program (ASIP)*, 1 Nov 2005

***Prescribed Forms***

None

***Adopted Forms***

AF Form 847, *Recommendation for Change of Publication*

***Abbreviations and Acronyms***

**AFI**—Air Force Instruction

**AFMAN**—Air Force Manual

**AFPD**—Air Force Policy Directive

**ASIP**—Aircraft Structural Integrity Program

**DCS**—Deputy Chief of Staff

**IAT**—Individual Aircraft Tracking

**L/ESS**—Loads/Environment Spectra Survey

**MAJCOM**—Major Command

**MDS**—Mission Design Series

**MIL**—STD—Military Standard

**OPR**—Office of Primary Responsibility

**PEO**—Program Executive Officer

**PM**—Program Manager



**ATTACHMENT 1 (ACC)**

**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION**

***References***

AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon System*, 8 Mar 2010

AFI 33-360, *Publications and Forms Management*, 25 September 2013

AFI 63-140, *Aircraft Structural Integrity Program*, 7 April 2014

***Abbreviations and Acronyms***

**L/ESS**—Loads/Environment Spectra Survey

**MAJCOM**—Major Command

**SPO**—System Program Office

## Attachment 2 (Added-ACC)

## ACC INDIVIDUAL AIRCRAFT TRACKING (IAT) STATUS REPORTING TEMPLATE

Figure A2.1. ACC INDIVIDUAL AIRCRAFT TRACKING (IAT) STATUS REPORTING TEMPLATE

## SAMPLE

## ACC Individual Aircraft Tracking (IAT) Status Reporting

BASE	UNIT	MDS(s)	Reporting Quarter
Sample Base	123 MXG	F-123	Jan –Mar 2014

ITEM	VALUE
Number of Recorder or DTC Downloads Required	225
Number of Recorder or DTC Downloads Submitted	72
Recorder Submission Rate	32%
Number of Sorties Flown	635
Number of Forms Submitted	550
Percent Captured	88.6%

COMMENTS	
<p>The objective is to submit 100% of required collected data.  Search in progress for missing forms.  Download hard drive corrupt all files lost, new hard drive on order  EDD 30 Oct 2014.</p>	
Monthly break down (AFTO Form 239)	(Automated Recorders)
Jan sorties flown: 211	Recorder Downloads
Required: 75	
Jan forms submitted: 183	Recorder Downloads
Submitted: 24	
Feb sorties flown: 213	Recorder Downloads
Required: 75	
Feb forms submitted: 184	Recorder Downloads
Submitted: 24	
Mar sorties flown: 211	Recorder Downloads
Required: 75	
Mar forms submitted: 183	Recorder Downloads